

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

FIREBREAK

(Feet)

CODE 394

DEFINITION

A strip of bare land or vegetation that retards fire.

PURPOSES

To protect soil, water, air, plant, animal and human resources by preventing spread of wildfire or to control prescribed burns.

CONDITIONS WHERE PRACTICE APPLIES

All land uses where protection from wildfire is needed or prescribed burning is applied.

CRITERIA

Firebreaks may be temporary or permanent and shall consist of fire-resistant vegetation, non-flammable materials, bare ground, or a combination of these.

Firebreaks will be of sufficient width and length to stop or contain an advancing fire.

Firebreaks shall be located to minimize risk to the resources being protected.

Plants left in a shaded fuelbreak will be based on their attributes in retarding fire and ease of maintenance.

Erosion control measures may be needed to prevent sediment from leaving the site.

Comply with applicable laws and regulations, including the state's Management Measures.

CONSIDERATIONS

Use existing barriers such as streams, lakes, ponds, rock cliffs, roads, drainage canals, railroads, utility right-of-way, and cultivated land as natural firebreaks.

Locate firebreaks on the contour where possible to minimize risk of soil erosion.

Attempt to locate firebreaks near ridge crests and valley bottoms. If winds are predictable, firebreaks should be located perpendicular to the wind and on the windward side of the area to be protected.

Select plant species that provide wildlife habitat if compatible with purpose.

Design and layout should consider multiple uses, such as beautification and aesthetics.

Planning Considerations

The basic function of a fire or fuel-break is to impose some obstacle to the spread and a means of access to the fire.

Breaks are constructed for a number of purposes:

- a. To act as a barrier to prevent the spread of a fire to a particular area or property.
- b. To contain the spread of a fire from a fire source.
- c. To breakup large fuel areas. Where fire may spread rapidly or be difficult to control, a system of firebreaks is some-times established to aid in confining the fire to a relatively small area.
- d. Reduce a crown fire to a fire burning on the ground only.

Existing barriers must be considered. These include rock outcrops, streams, water bodies, swamps, and cover with naturally low flammability, and artificial barriers such as roads and railroads, power, gas, oil and telephone rights-of-way.

While applicable to most land uses, fire and fuel-break planning should be combined with all woodland/forest land management activities. Forest land improvement, tree planting and access roads provide opportunities to utilize fire and fuel-breaks while accomplishing other woodland/forest land objectives.

The installation of fire and fuel-breaks is based on the value of the resource, which is susceptible to fire. The costs of installation must be weighed against the benefits received through the reduced fire damage. Fire and fuel-breaks should be planned a method that seeks a reasonable level of control based on a determination of what is sufficient to the need. It is not economically feasible to develop a system of fire or fuel-breaks for low site stands, less than site index 70, for species such as ponderosa pine and Douglas fir, etc. Areas with high economic, social, wildlife or watershed values should be protected. These include the higher site index stands, home sites, plantations, significant cultural resources, areas which contain rare and endangered plants and animals, municipal water supply sources and Christmas tree farms.

Firebreaks

A firebreak consists of two parts; a lane or strip cleared of most trees, shrubs and other large flammable material within which a narrower strip is cleared down to bare mineral soil. They are best suited for use in range, crop, and urban lands.

Breaks are usually located with reference to probable sources of fires. These may be along roads or fences. They are also located to the usual direction a fire may spread.

Because mineral soil is required, erosion from firebreaks can become a serious problem. Therefore, erosion control measures are necessary.

Fuel-breaks

A fuel-break is a wide strip of land where most trees and shrubs have been removed. It may have a grass understory to provide soil cover. These are intended to divide large areas of woody fuels into blocks, which allows control of the fire. The trees and shrubs may not survive a wildfire.

Normally, both are constructed in the following sequence. The first fuel-breaks are on the ridges separating the major drainages. The next series are on the ridges within the major subdrainages to break the area into smaller units.

In general, the wider the fuel-break, the easier and safer the job of holding the fire. However, budget and terrain constraints limit the width of most fuel-breaks.

Cultural Resources Considerations

Determine if installation of this practice with any others proposed will have any effect on any cultural resources. NRCS's objective is to avoid any effect to cultural resources and protect them in their original location. GM 420, Part 401, the California Environmental Handbook and the training for the California Environmental Assessment Worksheet specify how the NRCS must account for cultural resources. The Field Office Technical Guide, Section II contains general information, with Web sites for additional information, about cultural resources. The Environmental Handbook is online at www.ca.nrcs.usda.gov/rts/rts.html.

Endangered Species Considerations

Determine if installation of this practice with any others proposed will have any effect on any federal or state listed Rare, Threatened or Endangered species or their habitat. NRCS's objective is to benefit these species and others of concern or at least not have any adverse effect on a listed species.

If the Environmental Evaluation indicates the action may adversely affect a listed species or result in adverse modification of habitat of listed species which has been determined to be critical habitat, NRCS will advise the land user of the requirements of the Endangered Species Act and recommend alternative conservation treatments that avoid the adverse effects. Further assistance will be provided only if the landowner selects one of the alternative conservation treatments for installation; or at the request of the landowners, NRCS may initiate consultation with the Fish and Wildlife Service, National Marine Fisheries Service and/or California Department of Fish and Game. If the Environmental Evaluation indicates the action will not affect a listed species or result in adverse modification of critical habitat, consultation generally will not apply and usually would not be initiated. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Some species are year-round residents in some streams, such as, freshwater shrimp. Other species, such as steelhead and salmon, utilize streams during various seasons. Be aware that critical periods, such as spawning, eggs in gravels, and rearing of young may preclude activities in the stream that may directly affect the stream habitat during those periods. For example there should be no disturbance of stream gravel beds that may have eggs in them. That could include any equipment in the stream or even walking in the stream

or work upstream that may result in sediment depositing in the gravel beds. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Water Quantity

This practice will have a minor effect on the quantity of surface and ground water.

Water Quality

Bare land within the firebreak may leave the soil exposed to raindrop, sheet, and rill erosion. This may increase erosion and increase transport of sediment and substances to surface waters.

PLANS AND SPECIFICATIONS

Specifications for applying this practice shall be prepared for each site and recorded using approved specification sheets, job sheets, and narrative statements in the conservation plan, burn plan, or other acceptable documentation.

Specifications for applying fuel-breaks will also include:

For trees and shrubs: (1) species to be favored; (2) spacing after thinning or weeding; (3) methods of removal; (4) best season for cutting or treating chemically; (5) disposing of slash; and (6) special treatments, if needed, to forestall the spread of disease, fungi, or insects.

For herbaceous species: (1) dates of growth periods for effective treatment; (2) acceptable alternative materials, equipment, and methods; (3) types of areas, patterns of vegetation, and kinds and amounts that should be favored (left); (4) maintenance and management needed to follow management treatment.

For biological treatment methods, (1) kind of biological agent or grazing animal to be used, (2) timing, duration, and intensity of grazing or browsing, (3) desired degree of grazing or browsing used for effective control of target species, (4) maximum allowable degree of use on desirable non-target species, and (5) special precautions or requirements when using insects or plants as control agents.

OPERATION AND MAINTENANCE

A maintenance plan will be prepared which shall list various items that are to be inspected and follow-up work to be conducted.

Mow, spray, browse or graze vegetative firebreaks to avoid a build-up of excess litter and to control unwanted vegetation.

Inspect all firebreaks for woody materials such as dead limbs or blown down trees and remove them from the firebreak.

Inspect firebreaks annually and rework bare ground firebreaks as necessary to keep them clear of flammable vegetation.

Repair erosion control measures as necessary to ensure proper function.

Access by vehicles or people will be controlled to prevent damage to the firebreak.

Bare ground firebreaks, which are no longer needed, will be stabilized and/or revegetated.